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Application No. 10/579,444
Amendment dated June 16, 2008
Reply to Office Action of March 27, 2008

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Amendments to the Specification:

Please replace the paragraph beginning at line 16 on page 14 with the following amended paragraph:

The cooling system 100 shown in Figure 8 is used for controlled cooling of the two stage cooling plug 104. This cooling plug includes a first stage 106 and a second stage 108. Cooling supply line 102 provides cooling fluid to the first stage supply line 110 after passing through the first stage control valve 124 and a return line 112. Second stage supply line 114 is connected to the supply line 102 upstream of the temperature control valve 124. The second stage cooling plug 108 has a second stage control valve 126 in this case shown associated with the return line 116.

Please replace the paragraph beginning at line 30 on page 15 with the following amended paragraph:

The system 130 includes a reservoir 132 which is part of a chiller. The reservoir 132 is used to maintain the cooling media at a desired temperature. Pump 31-134 causes the cooling medium to flow through line 136 to the first stage cooling plug 131 whereby the first stage cooling plug is essentially at and maintained at the temperature of the reservoir. The cooling media-medium is returned to the reservoir 132 through the return line 138. The reservoir 132 includes its own sensor 142 which is used by the controller 144 to vary the amount of cooling water provided through supply line 148 to the heat exchanging coil 150. The amount of flow through the coil 150 is adjusted by the control valve 160. Thus the control valve 160 is adjusted by the temperature sensor 142 and/or the temperature sensor 140 whereby the temperature of the reservoir is maintained at a desired set temperature. Thus the operator can set the temperature of the reservoir which effectively determines the temperature of the first stage cooling plug 131. With this arrangement the cooling plug is maintained at the desired temperature and the amount of fluid pumped through the cooling plug assures the cooling provided to the extruded product does not substantially change the temperature of the cooling plug. Any variation due to the shape of the product being produced does not produce a damaging variation of the temperature of the cooling plug. With this arrangement the operator can set and

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maintain the desired temperature of the cooling plug 131 within a relatively narrow range.
With this arrangement tempering of the product as it is being used is achieved as the
product passes over the first stage and once the product has been effectively tempered it is
then possible to continue to remove heat from a product by the second stage cooling plug
133. Control of the actual temperature of second stage is not as critical and in this case
cooling for the second stage is provided by tapping into the supply line 148 to provide a
cooling source for the supply line 154 of the second stage cooling plug 133. The return line
for the second stage cooling plug is shown as 156 and taps into the discharge line 152.